200500081 THE UNITED STATES OF AMERICA <u>TO ALL TO WHOM THESE; PRESENTS; SHALL COME:</u> Hioneer Ki-Bred International, Inc. LOCCORS, THERE HAS BEEN PRESENTED TO THE Secretary of Agriculture N APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF EXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE ONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A ART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN OMPLIED WITH, AND THE TITLE THERETO IS, FROM THE REGORDS OF THE PLANT VARIETY ROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE XAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT ARIETY PROTECTION UNDER THE LAW. NOW, THEREPORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANTIS) AND THE SUCCESSORS, HERS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISAMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE HT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR TING 17 OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE DURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.) **SOYBEAN** '93M51' In Testimonn Thereof, I have hereunto set my hand and caused the seal of the Plant Hariety Trotection Office to be affixed at the City of Washington, D.C. this twenty-third day of June, in the year two thousand and five. Plant Variety Protection Office Agricultural Marketing Service

No.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions and information collection burden statement on reverse)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 1. NAME OF OWNER Pioneer Hi-Bred International, Inc. 3. VARIETY NAME 93M51 XB35L04 ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 7300 N. W. 62<sup>th</sup> Avenue P.O. Box 1004 Johnston, IA 50131 TELEPHONE (include area code) FOR OFFICIAL USE ONLY 515-254-2638 **PVPO NUMBER** FAX (include area code) 2 0 FILING DATE 6. 515-253-2478 1/18/2005 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) 8. IF INCORPORATED, GIVE STATE OF INCORPORATION 9. DATE OF INCORPORATION May 6, 1926 Corporate NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) FILING AND EXAMINATION FEES: 10. Daria Schmidt, Ph. D. 7300 N.W. 62<sup>Rd</sup> Avenue P.O. Box 1004 Johnston ,IA 50131-1004 Steve Callistein, Exq 7100 N.W 62<sup>nd</sup> Avenue P.O Box 1000 Johnston, IA 50131-1000 \$3,652.00 DATE 1/18/2005 CERTIFICATION FEE: s 432 TELEPHONE (Include area code) FAX (Include area code) 13. E-MAIL CROP KIND (Common No 14. 515-254-2638 515-253-2478 daria.schmidt@pioneer.com Soybean 18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF reverse) CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act) X Exhibit A. Origin and Breeding History of the Variety YES (If "yes", answer items 20 and 21 below) X NO (If "no," go to item 22) X Exhibit B. Statement of Distinctness DOES THE OWNER SPECIFY THAT SEED OF THIS ☐ YES □ NO X Exhibit C. Objective Description of Variety VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? FOUNDATION REGISTERED CERTIFIED X Exhibit D. Additional Description of the Variety (Optional) X Exhibit E. Statement of the Basis of the Owner's Ownership 21. DOES THE OWNER SPECIFY THAT THE CLASSES BE X Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, LIMITED AS TO NUMBER OF GENERATIONS? YES NO verification that tissue culture will be depositied and maintained in an approved public repository) IF YES, SPECIFY THE X Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office) NUMBER 1, 2, 3, etc. FOUNDATION REGISTERED CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.) 23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? 22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? □ x NO YES YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.) REFERENCE NUMBER. (Please use space indicated on reverse.) 24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties. SIGNATURE OF OWNER SIGNATURE OF OWNER Joh NAME (Please print or type NAME (Please print or type) Daria H. Schmidt CAPACITY OR TITLE CAPACITY OR TITLE DATE Director, Technology Integration and Associative Genetics

#### INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

#### ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
  - (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance. etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)
- 23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)
- U.S. Patent 4,940,835 issued to Shah et al. as per the Roundup Ready Gene in this variety

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0531-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotage, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces ST-470 (02-99) which is obsolete.

### Exhibit A. Origin and Breeding History of the Variety

Soybean Variety 93M51

Variety 93M51 evolved from a cross made in the winter of 1999/2000 in Chile with the following parentage:

93B86/YB34Y99 YB34Y99 = 93B82/45282 45282 = ST3660/21726 21726 = A2396/21132 21132 = A2396/21082 21082 = 9381/90685A 90685A = 9381/G40-3P9392\*

\*G40-3P9392 is an experimental line with the Roundup Ready (40-3-2) gene

Variety 93M51 is an F3-derived line which was advanced to the F3 generation by modified single-seed descent. The F3 progeny row of 93M51 was grown in a plant row in Illinois in 2000. Subsequently, 93M51 has undergone four years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants. On the basis of yield, Soybean cyst nematode resistance, and resistance to Roundup branded herbicides, variety 93M51 was assigned a commercial number.

The purification block was grown during the summer of 2002 in Illinois and 35 sublines were harvested. An approximately half (1/2) acre increase was grown in Chile in the winter of 2002/03. Twenty–three (23) acres of parent seedstock (foundation seed equivalent) were grown in 2003 and approximately 1290 acres of seedstock and production seed were grown in the summer of 2004.

### **Exhibit B. Statement of Distinctness**

Soybean Variety 93M51

Variety 93M51 is most similar to 93M60. Both varieties have purple flowers, light tawny pubescence, black hila, resistance to Races 3 of Soybean cyst nematode, and resistance to Roundup branded herbicides. However, 93M51 does not carry the Rps1c gene for resistance to *Phytophthora megasperma* whereas 93M60 has resistance to *Phytophthora megasperma* as governed by the Rps1c gene.

#### REPRODUCE LOCALLY. Include form number and date on all reproductions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data ources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326 DW. Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705 EXHIBIT C (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY SOYBEAN (Glycine max (L.) Merr.)

			SOYBEA	N (Glyci	ne max (L.) Mer	r.)
NAME OF APPLICANT(S) Pioneer Hi-Bred, International	. /0/2	///\				FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. N		*				Zrwoner() () () 6
750 02.00 750 62nd Avenue (87:1/31/200 P.O Box 1004 Johnston, IA 50131-1004					·	VARIETY NAME 93M51
						TEMPORARY OR EXPERIMENTAL DESIGNATION
PLEASE READ ALL INSTR	UCTIONS C	AREFULLY: PI	ace the appro	priate nun	ber that describes tl	ne varietal character of this variety in the boxes below.
Place a zero in the first box (equantitative	9. g.	9 9	or 0	9)	when number is ei	ther 99 or less or 9 or less respectively. Data for
plant characters chould be ba	sed on a min	imum of 100 pla	nts. Compara	itive data s	hould be determined	from varieties entered in the same trial. Royal
Horticulutral Society or any r						
Please answer all questions fo						
A. MORPHOLOG	Y				<u> </u>	· · · · · · · · · · · · · · · · · · ·
Seed Shape:						
$ \begin{array}{c} 1 = \text{Spheri} \\ \text{(L/W, L/T)} \end{array} $		ratios < 1.2)		-	erical - Flattene atio > 1.2; L/T ra	
3 = Elonga (L/T ratio		ratio < 1.2)	1		ngate - Flattened tio > 1.2;T/W ra	
Seed Coat Color:						
1 =	Yellow	2 = Green	3 = E	Brown	4 = Black	5 = Other
Seed Coat Luster:						(Please Specify
1 = E	Pull	2 = Shiny				
Seed Size:			•			•
18.5 gram	s/100 seed	s				
Hilum Color:						
6	Buff Black	2 = Yellow 7 = Other (		rown	4 = <b>Gray</b>	5 = Imperfect Black
· · · · · · · · · · · · · · · · · · ·	DIACK	i = Omer (	r wase spec	cyy)		•

### A. MORPHOLOGY (Continued)

**Cotyledon Color:** 

1

1 = Yellow

2 = Green

**Seed Protein Peroxidase Activity:** 

2

1 = Low

2 = High

**Hypocotyl Color:** 

3

1 = Green ('Evans' or 'Davis') 2 = Green with Bronze
Bands below Cotyledons

Bands below Cotyledons ('Woodworth' or 'Tracy')

3 = Light Purple below Cotyledons ('Beeson' or 'Pickett 71') 4 = Dark Purple extending to

unifoliolate leaves ('Hodgson', 'Coker', or

Leaflet Shape:

3

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Please Specify)

Flower Color:

2

1 = White

2 = Purple

3 = White with a Purple Throat

**Pod Color:** 

2

1 = Tan

2 = Brown

3 =Black

**Pubescence Color:** 

3

1 = Gray

2 = Brown (Tawny)

3 =Light Tawny

**Plant Habit:** 

3

1 = Determinate

2 = Semi - Determinate

3 =Indeterminate

4 =Intermdeiate

**Maturity Group:** 

06

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

14 = XI

15 = XII

**Maturity Subgroup:** 

5

Please enter a value from 0 - 9

**B. DISEASE REACTION** 

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

**Bacterial** 

0 |

Bacterial Pustule (Xanthomonas campestri pv. glycines (Nakano) Dye)

1

Bacterial Blight Pseudomonas syringa pv. glycinea (Coerper) Young, Dye, and Wilkie)

0

Wildfire Blight Pseudomonas syringa pv. tabaci (Wolf Foster) Young, Dye, Wilkie)

DISE	EASE REACTION	ON (Continue	$d) \qquad 0 = \text{Not } 7$	Tested 1 = Su	sceptible	2 = Resistant	3 = T	olerant
unga	1							٠
1	Brown Spot (S	Septoria glycines <u>H</u> e	emmi)					
•••	Frogeye Leaf S	pot (Cercospora s	ojina Hara)					
0	race 1	0 ra	ce 2	. 0	race 3	3	0	race 4
0	race 5	О га	ce 6	0	Othe	(Please Specify)		
0	Target Spot (Co	orynespora cassiic	ola (Berk. Cu	rt.) Wei)				
0	Downey Mildew	(Peronospora trij	oliorum var. m	anchurica (Naum	n.) Syd. e	x Gäum)		
0	Powdery Mildev	w (Microsphaera d	<i>iffusa</i> Cke. and	d Pk.)				
0	Brown Stem Ro	t (Phialophora gr	egata (Allingto	on .Chamberlain	ı) W. Gaı	ns.)		
0	Stem Canker (1	Diaporthe phaseol	orum (Cke. and	d Ell.) Sacc. var.	caulivore	Athow and Caldv	vell)	
1	Pod and Stem B	light <i>(Diaporthe</i>	phaseolorum (	Cke. and Ell.) Sa	icc. var. s	<i>ojae</i> (Lehman) We	hm.	-
0	Purple Seed Stai	in <i>(Cercospora</i> :	kikuchii (T. M	atsu. and Tomo	yasu) Ga	rdener)		
1	Rhizoctonia Roo	ot Rot (Rhizoctor	ia solani Küh	n)				
ytop	hthora Root Rot (	Phytophthora meg	asperma Dree	chs. f. sp. glycine	ea (Kuar	Erwin))		
0	race 1	0 race 8	0	race 15	0	race 22		
0	race 2	0 race 9	0	race 16	0	race 23		
0	race 3	0 race 10	0	race 17	0	race 24		
1	race 4	0 race 11		race 18		race 25		·
0	race 5	0 race 12		race 19		race 26 Other <i>(Please Spe</i>	cifv)	
0 1	race 6	0 race 13		race20	. • .	)	~ <i>43)</i>	
	race 7			race 21				
1	Bud Blight (Toba	acco Ringspot Vir	us)					
1	Yellow Mosaic (1	hean Vellow Mose	ic Virus)					

B. DIS	SEASE REACTION	S (Continued) 0	= No	t Tested	1 = Sus	ceptible	2 = Resistant	3 = Tolerant	
Fung	al								
1	Cowpea Mosaic (Co	wpea Chlorotic Virus	s)						
1	Pod Mottle (Bean Po	od Mottle Virus)				·			
1	Seed Mottle (Soybea	n Mosaic Virus)					·		
Nema	tode								
Soybe	ean Cyst Nematode (He	terodera glycines Ich	inohe	)		•			
1	race 1 0	race 4	0	race 9					
1	race 2	race 5	0	race 14					
2	race 3	race 6	0	Other	(Please	Specify)			
0	Lance Nematode (E	Ioploaimus columbus	Sher	)					
0	Southern Root Knot	Nematode (Meloidog	yne in	icognita (	(Kofoid a	and White	) Chitwo		
0	Northern Root Knot	Nematode (Meloidog	yne h	<i>apla</i> Chit	wood)				
0	Peanut Root Knot No	ematode ( <i>Meloidogyn</i>	e arei	naria (Ne:	al) Chitw	ood)			
0	Reniform Nematode	(Rotylenchus renifor	mus I	Linwood a	and Olive	ra)		1	
0	Javanese Nematode	(Meloidogyne javanic	a (Ti	eub) Chit	wood)				
0	Other Nematode (P	lease Specify) 0							
. PH	YSIOLOGICAL RE	SPONSES 0 =	= Not	Tested	1 = Susc	eptible	2 = Resistant	3 = Tolerant	
1	Iron Chlorosis on Cal	careous Soil							
0	Phosphorus			Oth	er ( <i>Ple</i>	ase Specif	ý) 0		
0	Boron								٠
0	Aluminum								
0	Salt								
0	Drought								

D. INSECT REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant	
Fungal					
Mexican Bean Beetle (Epilachna	varivestis Mulsant)				
O Potato Leaf Hopper (Empoasca fa	bae (Harris))				
Other (Please Specify)					
E. HERBICIDE REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant		
0 Metribuzin					
0 Bentazone					
1 Sulfonylurea					
2 Glyphosate					
0 Glufosinate		÷			
0 Pendimethalin					
Other (Please Specify) 0					
F. TRANSGENIC COMPOSITION					
Has the development of the subject variety inc the removal of genetic material from the applic	luded the insertion of cation variety?	genetic material fi	rom an organism	other than a soyber	an, or,
If yes, please complete the following infomation	n requests*. Use add	itional pages if nec	essary.	·	
1. Please state the vector's name:					
2. Please state the vector components:			:		
3. Please describe the genetic material successi	fully transferred into	the subject variety	:		٠
4. Please describe the insertion protocol:					
A literature citation(s) explaining the four "Transgenic Composition" portion of this form the vector components and insert elements are Development, Identification, and Characteriza	<ul> <li>This section is full summarized in Figur</li> </ul>	ly addressed in the re 1 and Table 1 on	following publica page 1453. Padg	ition. Specific deta gette, S.R. et al.	ils of
G. BIOCHEMICAL MARKERS					
Please describe any biochemical information he					

necessary.

## **Exhibit D.** Additional Description of the Variety

Soybean Variety 93M51

In Exhibit C we have identified variety 93M51 as susceptible to bacterial blight, brown spot, pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle and seed mottle.

This does not mean that variety 93M51 is any worse for these problems than other varieties of similar maturity. Rather, we do not consider 93M51 to be immune to these problems. Therefore, we have chosen to be conservative and have identified the line as "susceptible".

Variety 93M51 is a mid Group 3 variety. If Group 3 varieties are divided into tenths, the relative maturity of 93M51 is 3.5.

REPRODUCE LOCALLY. Include form number and edition date on a		FORM APPROVED - OMB No. 0581-00
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE	The following statements are made in 1974 (5 U.S.C. 552a) and the Paper	n accordance with the Privacy Act of Reduction Act (PRA) of 1995.
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to de certificate is to be issued (7 U.S.C. 2 confidential until the certificate is issued in the certificate is issued in the certificate i	421). The information is held
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	2. VARIETY NAME
Pioneer Hi-Bred International, Inc	OR EXPERIMENTAL NUMBER	93M51
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
7300 N.W. 62 <sup>nd</sup> Avenue	515-254-2638	515-253-2478
P.O. Box 1004 Iohnston, IA 50131-1004		
	7. PVPO NUMBER 200	500081
B. Does the applicant own all rights to the variety? Mark an "X" in the state of the property of the proper	he appropriate block.	X YES NO
No. 1 to the complicate of the divide of the company of the compan		
<ul> <li>Is the applicant (individual or company) a U.S. National or a U.S.</li> <li>f no, give name of country</li> </ul>	based company?	X YES NO
10. Is the applicant the original owner?	If no, please answer one of the fo	llowing:
a. If the original rights to variety were owned by individual(s), is	(are) the original owner(s) a U.S. Nation	nal(s)?
YES NO If no, give name of coun	trv	
b. If the original rights to variety were owned by a company(ies	•	and composed
		sed company?
YES NO If no, give name of coun	try	
1. Additional explanation on ownership (If needed, use the reverse	for extra space):	
	•	
lease Note:		
*	nsees) who meet the following criteria:	
Plant variety protection can only be afforded to the owners (not licer	person must be a U.S. national, national	of a UPOV member country, or ies.
Plant variety protection can only be afforded to the owners (not licer.  If the rights to the variety are owned by the original breeder, that national of a country which affords similar protection to nationals.	person must be a U.S. national, national of the U.S. for the same genus and spec	ies. v must be U.S. based, owned by
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